

Applicant : S. R. Narayanan, et al.  
Serial No. : 09/489,515  
Filed : January 21, 2000  
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Attorney's Docket No.: 06618-408001 / CIT2942 USC  
2861

### REMARKS

Claims 6-26 are pending in this application. Claim 7 has been cancelled. Claims 6, 11, 19, and 26 have been amended to include a membrane plasticizer. Support for this amendment may be found in claim 7, as originally filed.

The newly amended claims reflect applicants' discovery that the use of a membrane plasticizer in a catalyst ink, which includes a catalytic material and poly(vinylidene fluoride), prevents membrane dry-out during the fabrication of a membrane electrode assembly, and, thereby, reduces the tendency of the membrane electrode assembly to delaminate (see, e.g., page 5, lines 22-26 of the specification).

Claims 6-9, 11-12, 14-15, 17-22, and 25-26 stand rejected under 35 U.S.C. 102(e) as being anticipated by Cabasso et al. (U.S. Patent No. 5,783,325). The Cabasso et al. reference does not disclose including a membrane plasticizer in the catalyst ink. Accordingly, the present claims are not anticipated by the Cabasso et al. reference and the rejection should be withdrawn.

Claims 10, 13, 16, and 23-24 stand rejected under 35 U.S.C. §103 over Cabasso, alone or in combination with Kindler or Scherer. As noted above, Cabasso fails to describe or suggest the inclusion of a membrane plasticizer in the ink. The secondary references also do not teach or suggest adding a membrane plasticizer to a catalyst ink or recognize that adding a membrane plasticizer to a catalyst ink can reduce delamination of a membrane electrode assembly. Thus, the secondary references do not remedy the deficiencies of the primary reference. Accordingly, the present claims would not have been obvious in view of the Cabasso et al. reference, alone or in combination with either of the secondary references, and the rejections under 35 U.S.C. §103(a) should be withdrawn.

Attached is a marked-up version of the changes being made by the current amendment.

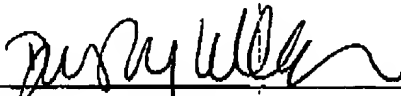
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Applicant asks that all claims be allowed. Please apply any other charges or credits to  
Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/13/03

  
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**Version with markings to show changes made**

**In the claims:**

Claim 7 has been cancelled.

Claims 6, 11, 19, and 26 have been amended as follows:

6. (Amended) A process for making a catalyst ink for a fuel cell, comprising mixing components comprising a catalytic material, a membrane plasticizer, and poly(vinylidene fluoride).

11. (Amended) A process for making an electrode for a fuel cell, comprising:

- (a) providing a catalyst ink comprising a catalytic material, a membrane plasticizer, and poly(vinylidene fluoride); and
- (b) applying the catalyst ink to at least one side of a substrate.

19. (Amended) A process for making a membrane electrode assembly for a fuel cell, comprising:

- (a) providing a catalyst ink comprising a catalytic material, a membrane plasticizer, and poly(vinylidene fluoride);
- (b) applying the catalyst ink to at least one side of a membrane; and
- (c) bonding the membrane to at least one electrode.

26. (Amended) A fuel cell comprising a membrane electrode assembly, wherein the membrane electrode assembly is made by the process of:

- (a) providing a catalyst ink comprising a catalytic material, a membrane plasticizer, and poly(vinylidene fluoride);
- (b) applying the catalyst ink to at least one side of a membrane; and
- (c) bonding the membrane to at least one electrode.